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In re: application entitled **Laparoscopic Lifter Apparatus and Method**

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Group Art No. 3731

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Examiner: (Jackie) Tan-Uyen T. Ho

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To: Examiner ((Jackie) Tan-Uyen T. Ho

Response to Examiner's Detailed First Action: Mailed 04/30/2004

### **Claim Objections-Informalities**

Claim 1 is amended as follows:

1. Line 4, after "housing" a comma is added.
2. Line 8, "a central knob" is changed to "a central hollow knob".
3. Lines 10-11, "said flexible ... lifter apparatus" is deleted.
4. Lines 16-17, "to comprise...apparatus" is deleted.

### **Claim Rejections - 35 USC 102**

Regarding examiner's rejection of claims 1-4 under 35 U.S. C. 102(b) as being anticipated by Hasson (4,944,741), the following table shows the substantial structural differences in the Hasson invention as compared to the present invention:

	Hasson	Present Invention
Flexible arms:	First and second jaws 16, 18. Avoids fixed configuration.	Band like flexible arms 18a, 18b. Width three to four times greater than depth. Fixed configuration.
Arcuate shapes:	Bowed surfaces 24, 26.	Arcuate shapes defining an oval

		space 34, the arcuate shapes determined by organ shape and size needs.
Blunt ends:	Arms 28, 30 attached movably to the free ends 32, 34 of jaws 16, 18.	Arms 18a, 18b end in blunt spheres 22 spaced apart to define an opening 24.
First and second handles:	Pusher blocks 58, 56 urged away from each other by spring element 60.	Second handle 14 that steadies an organ elevator 10 and a first handle that rotates and retracts arms 18a, 18b. Each handle hand operated without spring action.
Solid rod:	Core 72 is connected to rod 74 associated with jaw 18. Forward movement of core 72 effects forward shifting of rod 46 and pivoting of arm 28.	Solid rod 30 is linked to arms 18a, 18b; prevents arm up down movement and rotation when locking screw 26 impinges on solid rod 30.
Internally threaded ring housing:	The sleeve block 56 has a threaded bore 62 to accept a male fitting 64 fixedly attached to block 56.	An internally threaded ring 28 connects to a hollow externally threaded coupler 40.
Locking screw:	Sleeve block 56 has a threaded bore 68 to accept a set screw 70 to fix the lengthwise position of the elongated stem 20 relative to the block 56 and sleeve 22.	A locking screw 26 impinges on solid rod 30 which is linked to arms 18a, 18b preventing arm up down movement and rotation.
Tubular rod:	Elongated sleeve 22 surrounds stem 20 and guides relative lengthwise movement between stem 20 and sleeve 22.	Tubular rod 16 is strong and rigid and houses flexible arms 18a, 18b.
Central knob:	Sleeve block 56 has a threaded bore 62 that accepts a male	The tubular rod component 38 has a hollow externally threaded

fitting 64.

coupler 40 adheres to a central hollow knob 42 securing tubular rod 16 substantially perpendicular to second bilateral handle 14.

Regarding claims 1-3, the following argument is made:

The Hasson invention is designed to stabilize a fallopian tube so as to permit entry of a smaller tube through a fallopian tube abdominal end. The invention also assists with reconnection of a fallopian tube after tubal ligation. To achieve these purposes, the Hasson invention has a control end 12 where a surgeon can manipulate an arm 28 which is mounted on jaw 16 through a flexible rod 46 where the surgeon can rotate arm 28 approximately 90 degrees from its entry position. Thus a fallopian tube can be held in a certain place so the above mentioned procedures can take place.

Since the present invention is designed to lift an organ, there is no need to rotate end portions of the flexible arms 18a, 18b. In fact, such a design would prevent instrument entry into a desirable small incision and destabilize a lifting procedure where one piece elongated uniform arms 18a, 18b with blunt sphere 22 ends are needed as seen in the present invention and not in the Hasson instrument. Once the laparoscopic lifter is inserted into a small 11 mm incision, blunt sphere 22 ends prevent damage to delicate internal organs such as a spleen 39. More importantly, when the arms 18a, 18b are optimally ejected, the blunt sphere 22 ends are 4 to 6 centimeters apart allowing a user to slide the organ lifter apparatus 10 over a spleen 39 end and then down under the spleen to expose the hilum 37 where blood vessels entering the spleen 22 can be safely dissected and sutured, ligated, clipped or stapled. In the Hasson invention, the jaws 16, 18 are closed and the arms 28, 30 abut each other in order to support a fallopian tube. In the present invention it is necessary that the arms 18a, 18b are open to reach an organ without damage and provide a platform for organ lifting. In addition, the flat, rectangular arms 28, 30 in the Hasson invention are extensions of arms 28, 30 providing an uneven hazardous

arrangement inappropriate for safe organ lifting. In the present invention, smooth, continuous arms 18a, 18b provide a safe organ lifting instrument.

In addition the Hasson laparoscopic instrument with pivotal support arms teaches a spring 60 initiated action necessary to close jaws 16, 18. More spring related action effects pivoting of the arms 28, 30. In the present invention, there is no spring. A user thrusts first handle 12 toward tubular rod 16 to slide arms 18a, 18b through tubular rod 16 and holds second handle 14 to steady the organ elevator 10. This manual operation allows complete reliable control of arms 18a, 18b without spring action.

The first and second handles of the present invention do not appear in the Hasson invention. The internally threaded housing of the present invention is needed to connect a tubular rod component 38 with a flexible arms component in the present invention. The Hasson invention does not have two components connected by an internally threaded housing. Also, in the Hasson invention, there is no supporting rigid tubular rod 16 but a sleeve 22 that only serves as a guide.

In addition, the Hasson invention is an alternative to laparoscopic instruments with wide jaws. The present invention operates with wide, open arms in order to lift organs. The Hasson invention closed its arms to hold a fallopian tube.

The Hasson invention is structured for fallopian tube support and the present invention is structured for organ lifting; two different uses for two different instruments. Therefore, the present invention could not have been anticipated by Hasson.

Regarding claim 4, in Hasson, col. 3, lines 1-44, a method is described where severed fallopian tubes are held in close proximity to each other. An arm 28 is mounted to a jaw 16 and arm 28 is pivoted between entry and support positions. Arms 28, 30 are situated so that an elongated edge 52 on the arm 30 and the edge 44 on the arm 28 cooperatively maintain a closed position to provide a bearing surface for a flexible fallopian tube. There is no discussion in Hasson concerning fallopian tube reattachment. Hasson does not describe a method involving lifting an organ to expose a hilum, dissecting

the hilum and ligating, suturing and clipping blood vessels associated with the hilum. There are two different methods for two different uses; holding a tube verses lifting an organ.

In light of the above differences, it is respectfully requested that claims 1 be accepted as amended and claims 1-4 of the present invention be passed to issue.

Enclosed is an amended version of the claims and a clean version of the claims. Please contact me with any questions or comments.

Respectfully submitted,

encls.

Barbara R. Greenberg

Attorney Docket No. 30,260